

REMARKS

In the Final Office Action of December 19, 2005, the specification was objected to because references were made to pending U.S. Patent Application Serial Nos. Correction was required; and correction has been made by way of the foregoing amendments. Entry of the foregoing amendment after final is believed warranted since the additions to the specification are merely to update information on copending applications. Counsel has reviewed the Office Action and respectfully requests withdrawal of all other grounds of rejection and allowance of this case for the reasons discussed below.

The submitted declaration under 37 CFR § 1.132 of *John C. Parsons* was entered and reviewed by the Examiner. The declaration was objected to because it was written in the third person, which, according to the Examiner, somehow lessens its probative value. Withdrawal of this objection is requested. Specifically, the Examiner noted that the *Declaration* was “written in the third person, thus implying that the statements are not those of the declarant,” *Office Action*, Page 2, ¶ 3. Counsel notes there is no rule, regulation, requirement or even suggestion in the Code of Federal Regulations (CFR) or the Manual for Patent Examining Procedure (MPEP) which prohibits the use of “third-person” language in a declaration under 37 CFR § 1.132. Indeed, affidavits and declarations are written in the third person by most practitioners because they were traditionally prepared by an officer authorized to administer oaths who reported the statements of the affiant. The disregard of the evidence by the Examiner in this case on stylistic grounds is contrary to MPEP §716.01 which requires the Examiner to specifically explain why the evidence is insufficient. General statements such as “the declaration lacks technical validity” and so forth are specifically prohibited.

The Examiner disputes certain statements of John C. Parsons in the *Declaration*. In particular, the Examiner found the *Declaration* “unpersuasive because the statements misrepresent the prior art.” The Examiner’s reasoning for finding the *Declaration* statements misrepresentative are manifestly incorrect and should be reconsidered for the

reasons discussed below and the attached **Exhibit 1**, United States Patent No. 5,317,063 of *Komatsu et al.* On page 2, ¶3 of the *Office Action*, the Examiner states:

..... Section 3 of the
 declaration misrepresents the prior art by stating that Cole teaches water soluble binders. Cole, column 3, line 41, clearly states that the binders are water insoluble, thus forming an emulsion. |

Cole et al. do not state their binders are water insoluble nor that they are emulsion polymers—for good reason: they are water soluble and they are not emulsion polymers. Col 3, lines 39-46 of USP 6,444,214 are reproduced below and not contrary. Note that line 41 and following specifically states that *Cole et al.*'s ion-sensitive polymer formulations are ***insoluble in salt solution but can be soluble when diluted with water:***

The ion-sensitive polymer formula- |
 tions of the present invention have a “trigger property,” such 40
 that the polymers are insoluble in a wetting composition
 comprising ions of a particular type and concentration, such
 as monovalent salt solutions at a concentration from about
 0.3% to 10%, but can be soluble when diluted with water,
 including divalent salt solutions such as hard water with up 45
 to 200 ppm (parts per million) calcium and magnesium ions.

The foregoing clearly states that *Cole et al.*'s polymer formulations are ***insoluble*** in ***wetting compositions*** containing concentrated ions; no statement whatsoever suggests that the binders of *Cole et al.* are insoluble in water or that emulsion polymers are contemplated. The fact that emulsion polymers of the present invention work is unexpected as noted in the *Declaration* submitted. The Examiner also contends that the binders of *Cole et al.* are water insoluble thus forming an emulsion. The binders contemplated by *Cole et al.* are in fact fully water soluble and in any event insolubility in a particular medium does not equate with emulsification. The Examiner contradicts the

declaration of an expert in the field, John C. Parsons and instead substitutes an erroneous interpretation of *Cole et al.* The declaration clearly states that *Cole et al.*, for example, teaches water soluble binders, not emulsion binders. While this point is not in doubt on this record (the Examiner's comments notwithstanding), in further support, applicant submits herewith United States Patent No. 5,317,063 to *Komatsu et al.* as **Exhibit 1** which is referred to in the *Cole et al.* reference at Col. 7, line 43 as a suitable binder for use in his system. This reference is entitled "Water Soluble Polymer Sensitive to Salt" and describes water soluble polymers—not emulsion polymers. It is still further noted below in connection with discussion of the novelty rejections that *Cole et al.* repeatedly refer to their binders as water soluble.

In light of the improper objection to the *Declaration* and the inaccurate accusation regarding misrepresentation of the prior art in the *Declaration*, Applicant respectfully requests reconsideration of the *Declaration* and the response filed September 14, 2005. Further reasons warranting allowance are also discussed below.

In the Office Action claims 1 and 14 were rejected under 35 United States Code § 112, first paragraph as failing to comply with the written description requirement. In particular the language emulsion "residue" was objected to. This rejection is also contrary to accepted standards and should be withdrawn. The amendments to claim 1 are supported in the application as filed, page 3, line 20 to page 4, line 15 which states that the emulsions form films; clearly a "residue" of the emulsion. That language is reproduced below:

The binder is an emulsion polymer, which is salt sensitive. Salt sensitive emulsion polymers are polymers which are formed by emulsion polymerization process, and which form films that are dispersible in tap water, yet are non-dispersible in water containing at least 0.5 percent by weight of an inorganic monovalent, divalent, or trivalent salt, or mixtures thereof. The films formed may be continuous or non-continuous.

The polymer is dispersible, rather than soluble, in water. Dispersible, as used herein, means that in tap water, a film formed from the polymer breaks into small discrete pieces or particles that can be filtered out. These pieces are capable of being separated from the water. **While not being bound to a theory, it is believed that the dispersion of the polymer film is related to the fact that a film forms from an emulsion by coalescence of polymer particles, forming weak**

bonds between particles. In water, some bonds between the particles will break, resulting in clusters of polymer particles. This is different from a solution polymer in which polymer chains mix and entangle during film formation, and this film dissolves into individual polymer chains, which cannot be filtered. Since the polymer contains a high level of hydrophilic monomer(s), when the emulsion dries to a film, the particles are easily dispersed in water. Salt-sensitive emulsion polymers useful in the present invention are described in U.S. Patent Application No. 09/823,318 incorporated herein by reference.”

A film formed from an aqueous emulsion is the “residue” thereof (the Examiner’s comments notwithstanding); clearly a person of skill in the art would understand the claimed subject matter as being fully disclosed by the application as filed. If needed, further support is seen in the Examples which specify the web is “drum dried” after the emulsion binder is applied. *See also* application as filed, Page 4, line 12, *i.e.* ¶ 15 of U.S. Publication No. 2003/0008591.

Withdrawal of the § 112 rejections is requested; especially because there is no need whatsoever that the specification contain a particular term if the subject matter is reasonably disclosed. The written description requirement is complied with if the specification conveys to a person of ordinary skill in the art that the inventor was in possession of the invention at the time of filing. *Moba B.V. v. Diamond Automation Inc.*, 66 USPQ2d 1429, 1439 (Fed. Cir. 2003). As such, the test for the written description requirement depends on whether the specification provides “adequate support” for the subject matter at issue; how the specification accomplishes this is immaterial. *Id.*; *In re Wertheim, et al.*, 191 USPQ 90, 96 (C.C.P.A. 1976). It is only required that a person of skill in the art be able to “visualize or recognize the identity of the subject matter purportedly described.” *Koito Manufacturing Co. v. Turn-Key-Tech LLC*, 72 USPQ2d 1190, 1199 (Fed. Cir. 2004). The description can be satisfied by words, formulas, figures, etc. *Id.* For amended claims, each limitation must be “expressly, implicitly, or inherently supported in the originally filed disclosure.” MPEP § 2163(II)(3)(b). The written description requirement is thus met when the claimed embodiments are described and/or illustrated. Only reasonable disclosure of the claimed subject matter is required to establish compliance with the written description. Given the description noted above and

the Examples in the application as filed, there is believed to be no doubt as to sufficiency of the specification as filed in this case.

The claims in this case were again rejected under 35 United States Code §102(e) as being anticipated by United States Patent No. 6,444,214 to *Cole et al.* as applied in the previous Office Action as to all but new claims 13 and 14. This rejection should likewise be withdrawn because *Cole et al.* does not disclose, teach or suggest emulsion binders in connection with salt-sensitive products as is claimed. *Cole et al.* teaches water soluble as opposed to water dispersible polymers as that term is defined in the present case. The Examiner noted that an emulsion is a mixture of two immiscible liquids wherein one substance is dispersed in the other. This is correct. It also follows that a water soluble polymer cannot form an emulsion in water as is claimed in this case. A water soluble polymer dissolves in water and thus cannot form a separate phase with water as the continuous phase as is required in aqueous emulsion. The fact that *Cole et al.*'s polymers became insoluble in concentrated salt does not in any way suggest an emulsion.

The present invention teaches polymer formulations which contain polymers that are "dispersible, rather than soluble, in water." *Application*, Page 2, line 1, *i.e.* ¶ 15 of U.S. Publication No. 2003/0008591. Thus, the polymers used in the present invention are not water soluble by definition and form aqueous emulsions provided with emulsifier or stabilizer. Furthermore, *Cole et al.*'s polymer formulations, are described throughout that document as based on water soluble polymers, not emulsions. *Cole et al.*, Col. 5, lines 53-61:

The polymer formulations of the present invention may be formed from a single triggerable polymer, such as an ion-sensitive polymer, or from a combination of two or more 55 different polymers, such as a triggerable polymer and a co-binder. Desirably, at least one polymer of the polymer formulations of the present invention is an ion-sensitive polymer. Ion-sensitive polymers are known in the art and include any polymer whose water solubility varies depend- 60 ing on the type and amount of ions present in water.

Cole et al, Col. 6, lines 45-55, where *Cole et al* indicates specific types of acrylic acid polymers for use in the ion-sensitive polymer formulations based on their water-solubility properties:

45 The ion-sensitive Lion polymers and the ion-sensitive
polymers of the above-referenced co-pending applications
and U.S. patents of Kimberly-Clark Worldwide, Inc. are
useful in the present invention. The sulfonate anion modified
acrylic acid terpolymer of co-pending patent application Ser.
50 No. 09/223,999, assigned to Kimberly-Clark Worldwide,
Inc., are desired because, unlike the Lion Corp. polymers
and other polymers cited in technical literature, the polymers
of the co-pending application Ser. No. 09/223,999 are
soluble in water having from less than about 10 ppm Ca^{2+}
55 and/or Mg^{2+} up to about 200 ppm Ca^{2+} and/or Mg^{2+} . The

Cole et al, Col. 8, lines 21-31:

The acrylic acid copolymers of the present invention may
be prepared according to a variety of polymerization
25 methods, desirably a solution polymerization method. Suit-
able solvents for the polymerization method include, but are
not limited to, lower alcohols such as methanol, ethanol and
propanol; a mixed solvent of water and one or more lower
alcohols mentioned above; and a mixed solvent of water and
30 one or more lower ketones such as acetone or methyl ethyl
ketone.

Note that *Cole et al*, as opposed to Applicant, uses the terms “dispersibility” and “solubility” interchangeably throughout the disclosure as evidenced, for instance, in col. 5, lines 26-28; col. 11, lines 3-15; and col. 13, lines 2-6. In fact, *Cole et al* defines “dispersibility” as loss in cross-directional wet tensile strength in Col. 39, lines 9-13:

Dispersibility is defined as (1 minus the ratio of the
cross-direction wet tensile strength in the second solution 10
divided by the original cross-direction wet tensile strength)
*100%. Thus, if a pre-moistened wipe loses 75% of its CD
wet tensile strength after soaking in hard water for one hour,
the Hard Water Dispersibility is $(1-0.25)*100\%=75\%$.

Accordingly, the use of the term “water-dispersible” in reference to *Cole et al*’s polymer formulations **does not** indicate nor imply emulsion polymer binders as are claimed. The Examiner asserted in the *Office Action* that:

Applicant's position that the polymers of the dispersible products of Cole are **soluble** when in their polymer form, whereas the polymers making of the dispersible phase of an emulsion are inherently **insoluble** in their polymer form. Applicant's position has been carefully considered, but this alleged inherency is not supported by factual evidence.

This argument misses the mark in that it does not address the claimed subject matter which requires an aqueous emulsion binder and ignore the fact that applicant’s position is supported by clear evidence, in declaration form.. *Cole et al* does not disclose, teach or suggest an emulsion binder. Paragraph 3 of the *Declaration* affirms this fact:

3. That *Cole et al.* describes nonwovens with water *soluble* binders made of *solutions* containing mostly *highly soluble* Acrylic Acid (“AA”) polymers. The present invention, on the other hand, is directed to webs with *emulsion* residue binders that can *disperse* in water, but are salt-sensitive such that they do not disperse in salt solutions; an invention which is substantially different from and not, in his opinion, even remotely suggested by *Cole et al.* Amended Claim 1 is illustrative of the present invention:

1. A non-woven material comprising
 - a) a web of fibers; and
 - b) an emulsion binder comprising a tap water-dispersible polymer which is non-dispersible in aqueous solutions containing 0.5 weight percent or more of an inorganic salt, wherein said water-dispersible polymer comprises from 1 to 100 percent by weight of a hydrophilic monomer and from 0 to 99 percent by weight of at least one non-hydrophilic monomer, wherein said polymer has a Tg of from -40°C to +105°C, and wherein said **binder** comprises an **aqueous emulsion residue** which exhibits salt sensitive dispersibility in tap water.

The disregarded *Declaration* is clear and compelling as to this point.

The disregarded *Declaration* is clear and compelling as to unexpected results as well, especially paragraph 6:

6. It is unexpected based on his experience, and based on *Cole et al et al.* that emulsion binders including polymers which are not fully *water-soluble* can form emulsion residue binders which readily *disperse in water* but that the *dispersibility is salt-sensitive* as is claimed in the above referenced application. This is a superior result because of the enhanced processability of emulsion binders and their shipping and handling advantages noted above. The result is unexpected because the non-water soluble polymers of the present invention have much lower water solubility than the acrylic acid, highly water soluble polymers disclosed by *Cole et al et al*, for example; yet the binders are nevertheless dispersible in tap water and non-dispersible in salt solution. One of skill in the art would not expect this result; especially because of the fact the polymers are not water soluble.

The unexpected and superior results seen warrant allowance. *In re Soni*, 34 USPQ2d 1684, 1687 and following (CAFC 1995) is *appropos*:

Mere improvement in properties does not always suffice to show unexpected results. In our view, however, when an applicant demonstrates substantially improved results, as Soni did here, and states that the results were unexpected, this should suffice to establish unexpected results in the absence of evidence to the contrary. Soni, who owed the PTO a duty of candor, made such a showing here. The PTO has not provided any persuasive basis to question Soni's comparative data and assertion that the demonstrated results were unexpected. Thus, we are persuaded that the Board's finding that Soni did not establish unexpected results is clearly erroneous.

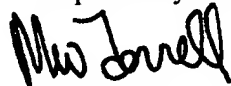
The cases cited by the dissent are not to the contrary. Neither *De Blauwe*, nor *Wood*, nor *Lindner* requires a showing of unexpectedness separate from a showing of significant differences in result. Nor does *Merck*, which involved compositions understood to differ only in "a matter of degree." Those are not the facts here, where substantially improved properties were shown. Given a presumption of similar properties for similar compositions, substantially improved properties are ipso facto unexpected. The difficulty postulated by the dissent in distinguishing substantial from

insubstantial improvement is no greater than the PTO and the courts have encountered, successfully, for many years in making judgments on the question of obviousness. It is not unworkable; it is simply the stuff of adjudication. Nor does it change established burdens of proof. The PTO here established a prima facie case, the applicant responded to it with a showing of data, and the PTO made an inadequate challenge to the adequacy of that showing.

The Final rejection should be withdrawn and this case should be passed to issue forthwith.

This response is believed timely filed. If any additional extensions are required, please consider this paper a *Petition* therefor and charge our Deposit Account No. 50-0935. Likewise, please charge our Deposit Account if any additional fees are required.

Respectfully submitted,



Michael W. Ferrell

Reg. No. 31,158

Ferrells, PLLC
4400 Fair Lakes Court, Suite 201
Fairfax, VA 22033-3899
Telephone: (703) 968-8600
Facsimile: (703) 968-5500
April 5, 2006